REMARKS

Claim Rejections - 35 U.S.C. §103

Claims 1-5, 8-16, and 21-25 are rejected under 35 USC §103(a) as being unpatentable over Yamada et al. (U.S. Patent No. 6,577,341) in view of Kanematsu et al. (U.S. Patent No. 5,852,454).

Yamada et al. discloses imaging apparatus in which an optical image is taken twice in a parallel shifted manner by using an image shifting mechanism or variable vertical angle prism, and the obtained two image pictures are combined to generate high-resolution image signals. The disclosed technique belongs to those for improving resolution based on pixel shifting.

Kanematsu et al. discloses control technique relating to color ink jet printer in which data of four colors of Y, M, C, Bk are inputted and are converted into trichromatic data of Y, M, C to perform printing.

Iura et al. discloses technique relating to exposure control of imaging apparatus in which: an aperture stop is set nearly at full-aperture position in the motion picture image mode, while it is made smaller and the shutter speed is changed in the still imaging mode. It does not discuss about the problem concerning colors.

Mogi et al. discloses imaging apparatus in which output of image signals is caused to fade during performing initialization operation of lens unit so as not to output degraded image.

Rambaldi et al. discloses CMOS image sensor system in which faulty pixels are previously detected/stored and the faulty pixels in image pickup signals are masked and the signals at the location of the faulty pixels are interpolated by surrounding pixel signals.

As the above, none of the cited references cited to reject claims under Sec. 103 discloses nor suggests the characteristic feature of the present invention that "the randomly arranged color coding array directly pick up the color image".

Furthermore, in the outstanding Office action, the Office has specifically asserted Figure 69 of Yamada to allege that a certain aspect of the present invention is taught therein. It should be noted that Figure 69 is a illustration explaining further features of what is disclosed in Figure 68. Therefore, to understand the context of Figure 69, one must understand what is disclosed in Figure 68.

FIG. 68 is a block diagram showing the electrical structure of an electronic still camera 1. The electronic still camera 1 has a high definition mode for imaging a high quality picture image. In the high definition mode, a single output picture image signal is generated from four original picture image signals to obtain an output picture image composed of picture elements whose number is greater than a number of photo-receiving domains of an imaging device 4.

When the mode is switched to the high definition mode, picture image light from an object is condensed to a desired state by an optical system 3 and is formed on an image forming plane of the imaging device 4 after passing through a color filter. The image forming plane is a two-dimensional plane on which a plurality of photo-receiving domains are arrayed in a matrix form. The color filter is disposed on the light incident side of the image forming plane and transmits only predetermined four chromatic lights. The position for forming the picture image light on the image forming plane is shifted sequentially to first through fourth different image forming positions by a so-called image shifting operation. The imaging device 4 receives the

formed picture image light by each photo-receiving domain to image the picture image light only for a predetermined exposure time every time when the position for forming the picture image light is shifted to the above-mentioned respective four shift positions and outputs four original picture image signals to a preprocessor circuit 5. This original picture image signal is composed of data of received light which corresponds to a quantity of light received by each photo-receiving domain. The preprocessor circuit 5 amplifies the original picture image signal given from the imaging device 4 and implements a necessary signal processing thereto. The processed signal is converted into a digital signal by an analog/digital converter circuit (abbreviated as an "A/D circuit" in the figures) 6 and is then stored in a picture image memory 7.

A signal processing circuit 8 shifts the original picture image represented by the original picture image signals thus obtained in the direction opposite from the shift direction of each of the image forming positions Qa through Qd by the same shift length to superimpose and composite them. Then, based on the received light data of this composite picture image, it generates a luminance signal and a color difference signal of a single output picture image. The generated luminance signal and the color difference signal are recorded in a recording medium 9.

Therefore, the context of Yamada is to use imaging device to pick up images collected from optical system 3.

In the outstanding Office action, it is essentially stating that Yamada fails to disclose or teach a randomized array. The Applicant agrees with this Office assessed shortcoming of Yamada. To supplement the shortcoming of Yamada, the Office asserted Kanematsu et al. Specifically, the Office cited Figure 10 of Kanematsu.

It should be noted that Kanematsu essentially is dealing with a technical problem that is due to the fact yellow, magna and cyan cannot fully emulate a true black color. Therefore, in print a color image on a medium, whenever black should be printed, the end result is less than ideal. Kanematsu is disclosed in the context of a color printer, not a color image pickup device. Therefore, Yamada and Kanematsu are from completely different fields of endeavor.

Furthermore, as clearly shown in Figure 10 of Kanematsu, the color patterns in memory 21 are quite regular in a continuous repeated pattern of a sequence of RGB. This continuous repeated pattern is re-arranged by way of a 100,000 time shuffle to yield what is depicted in memories 23, 24 and 25. Therefore, even if Figures 9-10 of Kanematsu are appropriately inserted after image device 4 of Yamada, a great deal of post processing is required.

To further patentably distinguished independent therefrom the combination rejection, independent claims 1, 3, 8, 11, 13, 21, 23 and 28 have been amended to recite the feature that the color coding array arranged in the randomized array directly picks up the color image. By so amending, it is clear that the randomly arranged color coding array directly picks up the color image, instead of non-randomly picking up the color image, storing it in memory, then resort to post processing to achieve the random effect, as suggested in the asserted combination of Yamada and Kanematsu.

Therefore, even if the asserted prior art are exactly combined as suggested in the outstanding Office action, the newly amended independent claims would not result.

Reconsideration and withdrawal of this rejection are respectfully requested.

CONCLUSION

In view of the aforementioned amendments and accompanying remarks, all pending claims are believed to be in condition for allowance, which action, at an early date, is requested.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 50-2866.

Respectfully Submitted,

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